What is claimed is:

1. A method of inserting sync patterns in modulated data, comprising the steps of:

(a) receiving modulated channel data;

(b) identifying a frame sequence of each frame-constituting channel data in a sector; and

(c) inserting a sync pattern in the channel data, the length of the sync pattern varying based on the identified frame sequence.

2. The method of claim 1, wherein said step (c) inserts a first sync pattern if the identified frame sequence is first in a sector, the first sync pattern being longer in bit length than a second sync pattern which is inserted before or behind non-first frame-constituting channel data.

3. The method of claim 2, wherein the first sync pattern consists of *d* zeros, one, *(k+3)* zeros, one, and *d* zeros when (d,k) constraints are given.

4. The method of claim 2, wherein the second sync pattern consists of *d* zeros, one, *(k+1)* zeros, one, and *d* zeros when (d,k) constraints are given.

5. The method of claim 2, wherein the first sync pattern is longer than the second sync pattern by 2 bits.

6. The method of claim 1, wherein the sync pattern has 0's run longer than *k* when (d,k) constraints are given.

7. A recording device comprising modulated data in sectors constituting a data block, the modulated data containing sync patterns which are added to every frame-constituting data unit, the length of the sync pattern varying based on a frame sequence of a

corresponding frame-constituting data unit in a sector.

8. The recording device of claim 7, wherein a first sync pattern has been added if the frame sequence is first in a sector, the first sync pattern is longer in bit length than a second sync pattern which has been added before or behind non-first frame-constituting data unit.

9. The recording device of claim 8, wherein the first sync pattern consists of *d* zeros, one, *(k+3)* zeros, one, and *d* zeros when (d,k) constraints are given.

10. The recording device of claim 8, wherein the second sync pattern consists of *d* zeros, one, *(k+1)* zeros, one, and *d* zeros when (d,k) constraints are given.

11. The recording device of claim 8, wherein the first sync pattern is longer than the second sync pattern by 2 bits.

12. The recording device of claim 7, wherein the sync pattern has 0's run longer than *k* when (d,k) constraints are given.

13. A method of inserting sync patterns in modulated data, comprising the steps of:

(a) receiving modulated channel data; and

(b) inserting either of a sector sync pattern and a frame sync pattern in the channel data at intervals, wherein the length of the sector sync pattern is different from that of the frame sync pattern.

14. The method of claim 13, wherein the sector sync pattern is longer than the frame sync pattern.

15. The method of claim 14, wherein the sector sync pattern is longer than the second sync pattern by 2 bits.

16. The method of claim 13, wherein the sector sync pattern

consists of *d* zeros, one, *(k+3)* zeros, one, and *d* zeros when (d,k) constraints are given.

17. The method of claim 13, wherein the frame sync pattern consists of *d* zeros, one, *(k+1)* zeros, one, and *d* zeros when (d,k) constraints are given.

18. The method of claim 13, wherein the sector sync pattern and the frame sync pattern have 0's run longer than *k*, respectively when (d,k) constraints are given.